

### **REMARKS**

This responds to the Office Action mailed on May 28, 2004. Claims 1-20 are pending in this application.

#### **§103 Rejection of the Claims**

##### **1) The Applicable Law**

The Examiner has the burden under 35 U.S.C. § 103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). To do so the Examiner must show that some objective teaching in the prior art or some knowledge generally available to one of ordinary skill in the art would lead an individual to combine the relevant teaching of the references. *Id.*

The *Fine* court stated that:

Obviousness is tested by "what the combined teaching of the references would have suggested to those of ordinary skill in the art." *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 878 (CCPA 1981)). But it "cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination." *ACS Hosp. Sys.*, 732 F.2d at 1577, 221 USPQ at 933. And "teachings of references can be combined *only* if there is some suggestion or incentive to do so." *Id.* (emphasis in original).

The M.P.E.P. adopts this line of reasoning, stating that

In order for the Examiner to establish a *prima facie* case of obviousness, three base criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure.

*M.P.E.P.* § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed.Cir. 1991)).

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991); MPEP § 2143. The Examiner must avoid hindsight. *In re Bond*, 910 F.2d 831, 834, 15 USPQ2d 1566, 1568 (Fed. Cir. 1990).

**2) *Applying the Law***

Claims 1-3, 5, 7-9, 11, 13-15 and 17 were rejected under 35 USC § 103(a) as being unpatentable over Kessler et al. (U.S. Patent No. 5,841,973, "Kessler") in view of Passint et al. (U.S. Patent No. 5,581,705, "Passint"). Applicant respectfully traverses the rejection.

Kessler describes a messaging facility in a multiprocessor computer system that includes assembly circuitry in a source processing element for assembling a message to be sent from the source processing element to a destination processing element (Abstract). Passint describes an opcode convention that permits one processor to send a message containing opcode, address and arguments to another processor (Abstract).

In contrast, Applicant teaches, among other things,

establishing a plurality of objects in the first processor; assigning a logical queue identifier (LQID) to a first one of the objects in the first processor, wherein each packet also includes an LQID value corresponding to an LQID of one of the objects; and routing the first packet to the first object based on the LQID value in the first packet,

as recited in claim 1.

Applicant recognized a need for methods of delivering a variety of network services via two or more processors in a network. The present application addresses this need by teaching a method of packet routing that adds another layer of connectivity. Claims 1, 7 and 13 of the present application, and their dependent claims, go beyond the messaging described by Kessler and Passint by reciting systems and methods for routing packets that include, among other things, routing packets to specific objects established within a processor. The objects can be routing objects, packet filtering objects, firewall objects, network address translation objects, and/or other objects. (*See* page 10 lines 21-24.) The present application also refers to object groups as software entities. (*See* page 17 lines 19-22.)

Routing packets to objects within a processor allows an object within a first processor on a first node to set up a channel to another object on a second processor on a second node (*see* page 18 lines 7-19), or it allows an object to set up a channel to another object on the same processor (*see* page 18 lines 20-22). Neither Kessler or Passint describes such routing.

The Examiner stated that, although Kessler fails to expressly teach all of the elements of the claims, these features are old and well known in the art as evidenced by Passint's teachings

(primarily found in Passint's Abstract). To support this, the Examiner asserts that the "opcode" described in Passint is a form of "LQID."

Although the Examiner stated that claims 1-3, 5, 7-9, 11, 13-15 and 17 were unpatentable over the combination of Kessler and Passint, his reasons for unpatentability are based on Kessler and what is know in the art, as evidenced by Passint. Applicant is unsure whether the Examiner intended to make the obviousness rejection based on the combination of Kessler and Passint, or on the combination of Kessler with common knowledge in the art. Applicant will, therefore, address both possible rejections.

The Examiner stated that, although Kessler teaches many of the elements of claims 1-20, he fails to teach

establishing a plurality of objects in the first processor; assigning a logical queue identifier (LQID) to a first one of the objects in the first processor, wherein each packet also includes an LQID value corresponding to an LQID of one of the objects; and routing the first packet to the first object based on the LQID value in the first packet,

as recited in claim 1. The Examiner then states that Passint teaches the use of an opcode in a packet and that this opcode is "a form of "LQID". Applicant disagrees.

Passint describes the use of an opcode that is decoded to indicate an action (*see* Passint, Abstract, column 2 lines 50-53 and column 6 lines 26-30). There is no description of the use of the opcode as an identifier of one of a plurality of objects as described by Applicant and claimed in claims 1-20 of the application. According to Applicant, an LQID is used, among other things, for identifying a software entity (*see* page 17 lines 19-22). To highlight the difference in functionality, it is helpful to note that the identifier (LQID) in the present application allows an object in a processor on node 1 to set up a channel to another object in a processor on node N (*see* page 18 lines 7-9), and it also allows one object to communicate with a second object using more than one channel (*see* page 18 lines 20-22). Applicant respectfully submits that the LQID is, therefore, distinguishable from the opcode in Passint.

Additionally, Applicant is unable to find a teaching or suggestion of "objects" in Passint as the term is used in the present application. The Examiner refers to "independent entities" in a microprocessor that reads on "objects" as used in the present application. (*See* Office Action ¶ 7A.) First, Applicant requests clarification on what is meant by "independent entities" since

Applicant is unable to find that term in either the Kessler or Passint reference. Second, the present application refers to an object group which is a group of generally dissimilar objects such as routing objects, packet filtering objects, firewall objects, network address translation objects, and/or other objects. (*See* page 10 lines 21-24.) The present application also refers to object groups as software entities (*See* page 17 lines 19-22.) Applicant is unable to find a teaching or suggestion of such objects in the references.

Because Kessler describes a messaging facility in a multiprocessor computer system that includes assembly circuitry in a source processing element for assembling a message to be sent from the source processing element to a destination processing element (Abstract) and Passint describes an opcode convention that permits one processor to send a message containing opcode, address and arguments to another processor (Abstract), the proposed combination of Kessler with Passint essentially results in the subject matter of Passint. Thus, the proposed combination fails to address routing packets to objects across a network based on an identifier value of the object as recited, among other things, in the contested claims. The Examiner asserted that because in a microprocessor independent entities are called upon to execute various instructions, it is clear in Passint, after decoding the opcode, a message is sent to an object to perform an action. Applicant respectfully submits that, even if Passint did teach or suggest this conclusion, the conclusion still fails to address routing packets to objects across a network based on an identifier value of the object as recited, among other things, in the contested claims.

Since neither Passint nor Kessler teach, “establishing a plurality of objects in the first processor” and “assigning a logical queue identifier (LQID) to a first one of the objects in the first processor” as described by Applicant and claimed in claims 1-20, the combination does not “teach or suggest all the claim limitations” as required by MPEP 2142.

Applicant will discuss the possible rejection based on Kessler and what is known in the art next. The MPEP states that

In limited circumstances, it is appropriate for an examiner to take official notice of facts not in the record or to rely on “common knowledge” in making a rejection, however such rejections should be judiciously applied....

It would not be appropriate for the examiner to take official notice of facts without citing a prior art reference where the facts asserted to be well known are not capable of instant and unquestionable demonstration as being well-known.

For example, assertions of technical facts in the areas of esoteric technology or specific knowledge of the prior art must always be supported by citation to some reference work recognized as standard in the pertinent art. *In re Ahlert*, 424 F.2d at 1091, 165 USPQ at 420-21. See also *In re Grose*, 592 F.2d 1161, 1167-68, 201 USPQ 57, 63 (CCPA 1979) (“[W]hen the PTO seeks to rely upon a chemical theory, in establishing a prima facie case of obviousness, it must provide evidentiary support for the existence and meaning of that theory.”); *In re Eynde*, 480 F.2d 1364, 1370, 178 USPQ 470, 474 (CCPA 1973) (“[W]e reject the notion that judicial or administrative notice may be taken of the state of the art. The facts constituting the state of the art are normally subject to the possibility of rational disagreement among reasonable men and are not amenable to the taking of such notice.”).

MPEP Section 2144.03. The MPEP goes on to state that

Any rejection based on assertions that a fact is well-known or is common knowledge in the art without documentary evidence to support the examiner’s conclusion should be judiciously applied. Furthermore, as noted by the court in *Ahlert*, any facts so noticed should be of notorious character and serve only to “fill in the gaps” in an insubstantial manner which might exist in the evidentiary showing made by the examiner to support a particular ground for rejection. It is never appropriate to rely solely on common knowledge in the art without evidentiary support in the record as the principal evidence upon which a rejection was based. See *Zurko*, 258 F.3d at 1386, 59 USPQ2d at 1697; *Ahlert*, 424 F.2d at 1092, 165 USPQ 421.

*Id.*

Contrary to what is taught in the MPEP, the Examiner is relying on common knowledge in the art to provide critical limitations of independent claims. In addition, the documentary evidence does not show what the Examiner claims.

As noted above, Passint describes the use of an opcode that is decoded to indicate an action (*see* Passint, Abstract, column 2 lines 50-53 and column 6 lines 26-30). There is no description of the use of the opcode as an identifier of one of a plurality of objects as described by Applicant and claimed in claims 1-20 of the application.. An LQID is used for, among other things, identifying a software entity (*see* page 17 lines 19-22). To highlight the difference in functionality, it is helpful to note that the identifier (LQID) in the present application allows an object in a processor on node 1 to set up a channel to another object in a processor on node N (*see* page 18 lines 7-9), and it also allows one object to communicate with a second object using more than one channel (*see* page 18 lines 20-22). Applicant respectfully submits that the LQID is distinguishable from the opcode in Passint.

Additionally, Applicant is unable to find a teaching or suggestion of “objects” in Passint as the term is used in the present application. The Examiner refers to “independent entities” in a

microprocessor that reads on “objects” as used in the present application. (*See* Office Action ¶ 7A.) First, Applicant requests clarification on what is meant by “independent entities” since Applicant is unable to find that term in either the Kessler or Passint reference. Second, the present application refers to an object group which is a group of generally dissimilar objects such as routing objects, packet filtering objects, firewall objects, network address translation objects, and/or other objects. (*See* page 10 lines 21-24.) The present application also refers to object groups as software entities (*See* page 17 lines 19-22.) Applicant is unable to find a teaching or suggestion of such objects in the references.

As noted above, the Examiner concluded that because in a microprocessor independent entities are called upon to execute various instructions, it is clear in Passint, after decoding the opcode, a message is sent to an object to perform an action. Applicant respectfully submits that, even if Passint did teach or suggest this conclusion, the conclusion still fails to address routing packets to objects across a network based on an identifier value of the object as recited, among other things, in the contested claims.

There are other reasons why the rejection fails. For instance, the Examiner states that the motivation to expand the system taught by Kessler with Passint’s teachings is enabling a messaging facility that can be used to accomplish a remote action to initiate a remote procedure.

Because the cited references do not teach or suggest the missing elements and because the Office Action has not provided documentary evidence that the missing elements are within the knowledge of one of skill in the art, Applicant submits that the Office Action has not established a proper *prima facie* case of obviousness. Applicant respectfully requests reconsideration and allowance of claims 1, 7, and 13.

*Regarding claims 2, 3, 8, 9, 14 and 15:*

Claims 2 and 3 ultimately depend on base claim 1, claims 8 and 9 ultimately depend on base claim 7, and claims 14 and 15 ultimately depend on base claim 13. Applicant believes that claims 2, 3, 8, 9, 14 and 15 are nonobvious and allowable at least for the reasons stated above for their base claims, namely 1, 7 and 13.

The Office Action admits that Kessler and Passint collectively fail to expressly teach the elements, but asserts that since the combined system of Kessler and Passint collectively teach that the addressing scheme used is customizable, it would have been obvious to one of ordinary

skill in the art to provide the missing elements with the motivation of defining the desired opcode convention (*see* Office Action ¶ 3B, citing column 2 lines 23-38 and 45-53). Applicant respectfully disagrees with the assertion.

The opcode in Passint only refers to a processor operation and is apparently separate from any addressing information (*see* column 6 lines 1-49). Thus, Passint does not provide documentary evidence that the elements missing from Kessler and Passint are obvious to one of ordinary skill in the art.

Because the cited references do not expressly teach the missing elements and because the Office Action has not provided documentary evidence that the missing elements are within the knowledge of one of skill in the art, Applicant assumes the Office Action is taking official notice of the missing elements. If so, Applicant respectfully traverses the taking of official notice.

Official notice unsupported by documentary evidence should only be taken by the examiner where the facts asserted to be well known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well-known. *In re Ahlert*, 424 F.2d 1088, 1091, 165 USPQ 418, 420 (CCPA 1970). *M.P.E.P. § 2144.03 (A)*. Applicant submits that the facts asserted to be within common knowledge in the art do not meet this standard.

Ordinarily, there must be some form of evidence in the record to support an assertion of common knowledge. *In re Lee*, 277 F.3d 1338, 1344-1345, 61 USPQ2d at 1434-35 (Fed. Cir. 2002). If such notice is taken, the basis for such reasoning must be set forth explicitly. The examiner must provide specific factual findings predicated on sound technical and scientific reasoning to support his or her conclusion of common knowledge. *In re Soli* 317 F.2d 941, 945-946, 137 USPQ 797, 800 (CCPA 1963); *In re Chevenard*, 139 F.2d 711, 713, 60 USPQ 239, 241 (CCPA 1943). *M.P.E.P. § 2144.03(B)*. The reasoning provided in the Office Action states that since the addressing scheme is customizable, it would have been obvious to one of ordinary skill in the art to provide the missing elements with the motivation of defining the desired opcode convention.

It is unclear to Applicant that the portions of Passint indicated in the Office Action describe a customizable addressing scheme, but instead apparently refer to defining an opcode convention (*see* column 2 lines 46-47). Additionally, even if the cited portions of Passint did teach or suggest a customizable addressing scheme, the Examiner has not provided sound

technical and scientific reasoning as to how an opcode and addressing scheme would motivate one of skill in the art to arrive at the packet routing systems and methods recited in the contested claims.

Applicant respectfully requests reconsideration and allowance of claims 2, 3, 8, 9, 14 and 15.

*Regarding claims 5, 11 and 17:*

Claim 5 depends on base claim 1, claim 11 depends on base claim 7 and claim 17 depends on base claim 13. Applicant believes claims 5, 11, and 17 are nonobvious and allowable at least for the reasons stated previously for the base claims.

The Office Action admits that Kessler and Passint collectively fail to expressly teach the elements, but asserts that since the addressing scheme is customizable and also teach using different messaging facilities for different types of packets, it would have been obvious to one of ordinary skill in the art to provide the missing elements with the motivation of defining the desired opcode convention that would enable the different messaging facilities. The opcode in Passint only refers to a processor operation and is apparently separate from any addressing information. Thus, defining an opcode convention does not provide the proper motivation to arrive at the subject matter recited in the contested claims.

Additionally, because the cited references do not expressly teach the missing elements and because the Office Action has not provided documentary evidence that the missing elements are within the knowledge of one of skill in the art, Applicant assumes the Office Action is taking official notice of the missing elements in making the rejection. Applicant respectfully traverses the taking of official notice of the missing elements.

Applicant submits that the facts asserted to be within common knowledge in the art are not capable of instant and unquestionable demonstration as being well-known to meet the proper standard for an assertion of common knowledge. Also, even if Passint did describe a customizable addressing scheme, the Examiner has not provided sound technical and scientific reasoning as to how an opcode and addressing scheme would lead one in the art toward using a first LQID associated with a first object to be used for point-to-point data traffic, and a second LQID associated with the first object to be used for shortcut data traffic, as recited in the contested claims.



Applicant respectfully requests reconsideration and allowance of claims 5, 11 and 17.

In responding to arguments in the previous Office Action with respect to claims 5, 11 and 17, the Examiner also stated that Attorney arguments or conclusions cannot take the place of evidence. Applicant points out that any arguments and conclusions made are not submitted as additional evidence to the record, but only highlight the evidence already entered in the record. Specifically, this evidence is the claims and the specification.

Claims 4, 10 and 16 were rejected under 35 USC § 103(a) as being unpatentable over Kessler et al. in view of Passint et al. as applied to claims 1, 7 and 13 above and further in view of Stracke (U.S. Patent No. 6,047,330). Applicant respectfully traverses the rejection.

Claim 4 depends on base claim 1, claim 10 depends on base claim 7 and claim 16 depends on base claim 13. Applicant believes claims 4, 10 and 16 are nonobvious and allowable at least for the reasons stated previously for the base claims. Applicant respectfully requests reconsideration and allowance of claims 4, 10 and 16.

Claims 6, 12 and 18 were rejected under 35 USC § 103(a) as being unpatentable over Kessler et al. in view of Passint et al. as applied to claims 1, 7 and 13 above and further in view of Allen (U.S. Patent No. 4,667,287). Applicant respectfully traverses the rejection.

Claim 6 depends on base claim 1, claim 12 depends on base claim 7 and claim 18 depends on base claim 13. Applicant believes claims 6, 12 and 18 are allowable at least for the reasons stated previously for the base claims. Applicant respectfully requests reconsideration and allowance of claims 6, 12 and 18.

Claims 19 and 20 were rejected under 35 USC § 103(a) as being unpatentable over Kessler et al. in view of Passint et al. as applied to claim 13 above and further in view of Kapustka et al. (Cosine Communications Moves VPNs 'Into the Cloud' with Leading Managed IP Service Delivery Platform, Cosine Communications [http://www.cosinecom.com/news/pr\\_5\\_24.html](http://www.cosinecom.com/news/pr_5_24.html), pg. 5, May 24, 1999). Applicant respectfully traverses the rejection.

**RESPONSE UNDER 37 CFR § 1.111**

Serial Number: 09/661,636

Filing Date: September 13, 2000

Title: PACKET ROUTING SYSTEM AND METHOD

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Claims 19 and 20 depend on claim 13 and are believed to be allowable at least for the reasons stated previously for claim 13. Applicant requests reconsideration and allowance of claims 19 and 20.

**CONCLUSION**

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (612) 373-6909 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

ABRAHAM R. MATTHEWS ET AL.

By their Representatives,

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.

P.O. Box 2938

Minneapolis, MN 55402

(612) 373-6909

Date August 30, 2004

By Thomas F. Brennan  
Thomas F. Brennan  
Reg. No. 35,075

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop AF, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 30 day of August, 2004.

Gina M. Uphus  
Name

Gina Uphus  
Signature